Castilleja linariifolia

Castilleja

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Honoring Dorns

By B. Heidel and W. Fertig

Since the early 1970's, Robert and Jane Dorn have written over a dozen scholarly and popular books and hundreds of popular articles and technical papers that address Wyoming birds, plants, and ecology. Among their most important works have been the first complete manual for the identification of plant species in Wyoming (first published in 1977 and updated three times, most recently in 2001); the first breeding bird atlas for the state, and two editions of a popular guide book to birding hotspots in Wyoming. The manuals and atlas address over 100 new species that they personally added to the biota of Wyoming (including at least 21 plant species new to science), a record that will probably never be surpassed for vascular plants and vertebrates. Their references are critical to researchers, land managers, industry and the public as tools for identifying the diversity of plant and bird species in the state.

In recognition of their accomplishments, Robert and Jane Dorn were nominated for a new Biodiversity Award when it was launched by the University of Wyoming (UW) Biodiversity Institute. They will receive the inaugural "Contributions to Biodiversity Science Award" at a public ceremony on October 16 at 5:30 pm, preceded by a reception at 5 pm. Carlos Martinez del Rio, UW Biodiversity Institute director, asserted that "They have truly revolutionized how we study and think about biodiversity in this state, and all of us -- not just 'us' from the Biodiversity Institute, but from all over Wyoming -- are grateful for their dedication and passion."

Books by the Dorns set the stage for current and future conservation, starting with the first publication on (Cont. p. 3)

Jane and Robert Dorn on the 2009 WYNPS fieldtrip to Green River greenthread, a species described by Robert Dorn,. By B. Heidel.

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WYNPS News

YOU ARE ESSENTIAL: If you don't hear this message enough on a day-to-day basis: YOU are essential! Look for more people articles among the plant articles in the future. Our common thread is a shared interest in Wyoming's native plants and vegetation, whether as fundamental to outdoor appreciation, land management, biological sciences, or a basic source of delight.

This issue was also spurred by talk from super-humans in recent weeks classified as "nonessential". In truth, federal botanists and other natural resource professionals are core to native plant understanding, conservation, and research in the state. If these truths don't come out in full-fledged form in each issue, please have patience… and suggestions. BH

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Treasurer's Report: Balance as of 2 October 2013: Scholarship = $1,345; General = $5,574; Total = $6,919.

Board Elections: Members interested in running for the 2014 Board, please contact Dorothy Tuthill (dtuthill@uwyo.edu).

New Members: Please welcome the following new members to WYNPS: Gene Ball, Cody; Mary Blackburn, Dubois; John Coffman, Lander; Reade Dornan, Jackson; Ed Fila, Bountiful, UT; Alyson Frisch, Houston, TX; Vera Gottlieb, Ashland, OR; Kelli Jones, Jackson; Dawn Kimball, Jackson; David Law, Casper; Jennifer Lyman, Billings, MT; Victoria Pennington, Laramie, Claudia Regan, Loveland, CO; Brigid Sinram, Alta.

Wyoming Native Plant Society:
– All Interests, All Levels, All the Time

We are mighty proud to publicize the state and national/international awards received by our members in this issue. We can all be inspired, while striving to maintain an organization for all interests, all levels, all the time.

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Contributors to this Issue: Ann Boelter, Robert Dorn, Water Fertig, Bonnie Heidel.

The next newsletter deadline is November 29. Articles, news and ideas are always welcome.

Bill Reiners, UW professor and ESA Eminent Ecologist

EMINENT ECOLOGIST[1]

In recognition of his groundbreaking accomplishments in an ecology career spanning five decades, the Ecological Society of America (ESA), the world's largest professional organization of ecologists, recently presented its top Eminent Ecologist award to William Reiners, professor in the University of Wyoming Department of Botany.

Reiners is perhaps best known as an ecosystem ecologist, where his contributions place him in the top rank of ecologists. "Many of the contours of terrestrial ecosystem ecology in 2013 are shaped by Bill's contributions, which have ranged from ecosystem energetics to biogeochemistry to canopy-exchange processes to transport of energy and materials across heterogeneous landscapes," wrote Stephen T. Jackson, UW professor emeritus who is now a professor of geosciences at the University of Arizona.

By 1983 when he came to head UW's Department of Botany, he had published pioneering research on carbon dioxide, scaling up from local studies of CO2 released from decomposition to global-scale studies, and benchmark work on pollutants and heavy metals, long before the scientific community launched its major thrust involving acid rain. Reiners diversified even further upon arrival in Wyoming, pioneering research on sagebrush steppe and disturbance regime effects on ecosystem properties, especially fire. He made fundamental contributions to other areas of ecology, recently, the philosophical and conceptual foundations of ecology.

[1] The article information is from the University of Wyoming press release, posted at: http://www.uwyo.edu/uw/news/2013/06/ecological-society-of-america-honors-uw-professor-bill-reiners.html

Honoring Dorns, *continued from p. 1.*

rare Wyoming plants and vertebrates, accompanied by the first generation of status reports for Wyoming's rare plant species. Their forward-looking perspective is grounded in the long view. They literally "wrote the book" on the history of ornithology study in Wyoming, and on the presettlement vegetation and wildlife of the state as gleaned from the journals of early explorers and pioneers.

While they have written biographic sketches about early explorers and naturalists, none of their books include autobiographic sketches. A casual reader would have no way of knowing that this husband-wife team of leading authorities also represents the pre-eminent research team, taxonomic monographer, fine illustrator, self-publisher, production manager, and financier, who all along have also given generously of their time on countless fieldtrips and more.

In spite of this self-effacement, or perhaps because of it, evolution of the English language has taken peculiar twists in Wyoming, such that the important works by the Dorns are referred to simply by author. Before heading into the field, armies of botanists, ornithologists and many afficionados need to "Pack a Dorn", and at all times, we need to be able to "check Dorn" at a moment's notice. Robert and Jane Dorn were nominated by a groundswell of past and present colleagues, including many Wyoming Native Plant Society and Audubon Society members, and others biologists who have become "mainstream Dorn users." They have inspired generations of biologists.

A separate "Biodiversity Conservation Award" will be presented to Chris Madson, editor of the award-winning "Wyoming Wildlife" magazine at the same time. "We welcome anyone who has been touched by Bob's, Jane's or Chris' work to attend the ceremony," Martinez del Rio says. "These three individuals are cornerstones to biodiversity science and conservation, and showing your support and appreciation will make the award ceremony an even more special experience."

Additions to the Flora of Wyoming

Since publication of Robert Dorn's third edition of *Vascular Plants of Wyoming* in 2001, additional species have been discovered in the state. They are published in professional journals, deposited in the Rocky Mountain Herbarium (RM) or other herbaria, and noted at RM and by collaborators. This newsletter provides an informal update on three new additions to the flora from the Medicine Bow Mountains.

Alchemilla filicaulis Buser **ssp. *filicaulis*** (thinstem ladies mantle)

A medicinal herb native to Europe and possibly Greenland and northeastern Canada is now known from the Medicine Bow Mountains (Lukas et al. 2012). It was likely to have been planted; all collections on national forest were around the Keystone townsite (Albany County). The first collection was made by Kathy Roche, USFS ecologist, and independently discovered by Yelena Kosovich and Laura Lukas. Kosovich sent specimens to John McNeill of the Royal Botanic Garden in Edinburgh, Scotland, who is writing the FNA treatment, for verification. (Lady's mantle is featured prominently in Culpeper's Complete Herbal; see the insert for a description of this plant as it appears in the 1800's reprint.)

Carex arcta Boott (northern cluster sedge)

The biggest genus of vascular plants in Wyoming got bigger...again (*Carex*; sedge genus). A circumboreal sedge species is now known from the glacial pothole landscape in the northwestern portion of the Medicine Bow Mountains (Carbon County). It is an addition to the native flora of Wyoming, collected at three locations on national forest by Ron Hartman (Lukas et al. 2012). It occurs as far south as California, Michigan and New York; with the nearest known Rocky Mountain populations in northwestern and south-central Montana (Lesica 2012). It differs from the widespread *Carex canescens* by having more spikes and perigynia with longer beaks (> 1 mm long; Lesica 2012).

Luzula subcapitata (Rydb.) H.D. Harr. (Colorado woodrush)

A Colorado endemic was found lurking among Wyoming specimens at the Rocky Mountain Herbarium (Zika 2013). It was collected twice in 1989 at the Glacier Lakes Ecosystem Experiments Site (GLEES), on national forest, by Judy Haines and Claudia Regan (Albany County). It is widespread in Colorado from subalpine and alpine willow carrs and pond shores (Weber and Wittmann 2012). Spikes are capitate and sessile or with a few long-peduncled, and with leaves 5-8 mm wide (Weber and Wittmann 2012).

References

Lesica, P. 2012. Manual of Montana Vascular Plants. Botanical Research Institute of Texas. Fort Worth, TX.

Lukas, L.E., B.E. Nelson and R.L. Hartman. 2012. A Floristic inventory of vascular plants of the Medicine Bow National Forest and vicinity, southeastern Wyoming, U.S.A. J. Bot. Res. Inst. Texas 6(2):759-787.

Weber, W.A. and R.C. Wittmann. 2012. Colorado Flora: Eastern Slope, Fourth Edition. University Press of Colorado, Boulder, CO.

Zika, P. 2013. Noteworthy collections - Wyoming. Madrono 60(1): 60.

Ladies Mantle (*Alchemilla vulgaris*)
[Editor's note: *Alchemilla filicaulis* ssp. *filicaulis* is synonomous with *A. vulgaris* ssp. *filicaulis*]

Description - It has many leaves rising from the root, standing upon long hairy foot-stalks, being almost round, and a little cut on the edges, into eight or ten parts, making it seem like a star, with so many corners and points, and dented round about, of a light green color, somewhat hard in handling, and as it were folded at first, and then crumbled in divers places, and a little hairy, as the stalk is also, which rises up among them to the height of two or three feet; it is so weak that it cannot stand upright, but bends to the ground, divded at the top into two or three small branches, with yellowish green heads, and flowers of a whitish colour breaking out of them; which being past, there comes a yellowish seed like a poppy-seed: the root is long and black, with many strings and fibres thereat.

Places - It grows in pastures and wood-sides in Hertfordshire, Wiltshire, Kent, and other parts of this country.

Time - It flowers in May and June, and is always green.

Government and Virtues - Venus claims this herb. It is proper for those wounds that have inflammations, and is effectual to stay bleedings, vomitings, and fluxes of all sorts, bruises by falls or otherwise, and helps ruptures, and..[The balance of text refers to conception, full-term pregnancy, and other alleged benefits to ladies.]

From: *Culpeper's Complete Herbal: A comprehensive description of nearly all herbs with their medicinal properties and directions for compounding the medicines.* 1880. W. Foulsham & Co. LTD. Bucks, England. Reprinted by The Know How Books.

Swamp Lake Special Botanical Area, by Brett French

FIELDTRIPS in the Beartooth Mountains
Annual Meeting of Wyoming Native Plant Society
26-28 July 2013

Walt Fertig and Ernie Nelson divulge Swamp Lake sedge secrets, by Mike Kirkpatrick

A budding botanist checks out a cottongrass (*Eriophorum callitrix*) , by Bonnie Heidel

Cathy Cripps delights tour-goers in the alpine fungus among us, by Don Bachman

An avid "fen club" enters Swamp Lake, by Eva Crane

Left: Phil Johnson introduces alpine vegetation, by Kenny Regan

Far left: Jennifer Whipple coaxes a rare *Draba* to pose, by Ann Boelter

...THANKS to all who shared photos!

Go on-line to see them in color: www.wynps.org

Growing Native Plants

Part 9. Medium Perennial Forbs

By Robert Dorn

Medium perennial forbs are used mostly between tall and short forbs in flower beds or sometimes in a flower bed of their own. They can be propagated from rootstock divisions, rhizome cuttings, or from seed. To see the following five examples in color, go to the Society website.

Gaillardia aristata, Common Blanketflower, grows to about 2 feet tall and half as wide. It usually forms a clump with few to several stems. The leaves are entire to sometimes deeply lobed, to 6 inches long and about 1 inch wide. The flowers are typical sunflower arrangement with brownish or purple-brown disk flowers at the center surrounded by yellow ray flowers which may have a reddish or purplish base. They bloom for a relatively long period between June and September. Remove old flowers to prolong blooming. The plants occur naturally in moist to dry, open places of the plains,

Gaillardia aristata, Crook County

basins, and mountains. They prefer full sun and well drained soil and are heat and drought tolerant. They are easy to grow from seed or rootstock division. Seed can be dried, refrigerated over winter, and sown ¼ inch deep or less in spring after frost danger has passed. They usually flower in the same year. There are many cultivars in the nursery trade but many of these are short-lived and some may be hybrids.

Geranium viscosissimum, Sticky Geranium, grows to about 2.5 feet tall and 1.5 foot wide with one to several stems per plant. The leaves are deeply lobed and to 5 inches long and wide. They turn red at first frost or sometimes before. The flowers are pink to lavender, upto 1.5 inch across, and mostly paired in the upper leaf axils. Blooming is usually from June to August and may be sporadic throughout the summer. The plants occur naturally in open woods, meadows, and on slopes in the mountains. They prefer full sun to partial shade and moist, loamy soil. They can be grown from summer cuttings, spring divisions, or from seed. Sow seed 0.5 inch deep or slightly less right after collection. Germination may be poor. Seed is also commercially available.

Geranium viscosissimum, Carbon County

Ipomoea leptophylla, Bush Morning-glory, forms a tangled bush to 4 feet tall and wide with a huge root. The leaves are narrow and upto 6 inches long. The flowers are deep pink to pink-lavender, funnel shaped, and to 3 inches long and across. One to three are borne in the leaf axils. The plants produce many flowers and have a long blooming season, generally May to September. The flowers are open in early morning but mostly close by mid-day if in direct sun. The plants occur naturally in dry, sandy or gravelly places on the plains. They prefer full sun and dry, well-drained soil. Root and seeds are poisonous. This plant tricky to grow. Transplanting is very difficult so it should be grown from seed as follows. Collect seed in late summer or fall. Examine the seeds for insect damage and discard any that are damaged. Either plant the seed upto 0.5 inch deep where you want it to grow or save the seed for planting indoors in very late winter or early spring. Soaking in water for 24 hours may help germination. It is very important to use a deep pot, preferably 15 inches or more deep, although ½ gallon milk cartons usually work. The bottom of the carton can be cut

out just before transplanting. Place a sheet of newspaper or paper towel around the bottom and up the sides to hold in the soil. Make a hole just big enough and deep enough for the carton, place in hole, and slip out the carton. The plants develop a very long root before much leaf development. Transplant from the pot to its final location within 3 weeks after the pair of green, lobed seed leaves appear. Try not to disturb the root. Do not overwater. It may take several years to flower. It is also in the nursery trade.

Ipomoea leptophylla, Goshen County

Linum lewisii, Blue Flax, forms a many stemmed plant upto 2.5 feet tall and 1 foot wide but usually much shorter. The leaves are very narrow and upto 1 inch long. The flowers are light to deep blue with a whitish or yellowish base, upto 1.5 inch across, and solitary at the tips of stems and branches. Each flower may last only one day but new flowers open each day in the morning with many flowers per plant. Blooming is generally from April to August depending on elevation. The plants occur naturally in open, moist to dry areas of the plains, basins, and mountains. They prefer full sun to light shade and well-drained soil. They are drought tolerant. The plants can be grown from seed sown in fall on the soil surface and covered with a light sprinkling of soil. It is not easy to transplant. Several cultivars are available in the nursery trade selected for their intense blue color.

Linum lewisii, Carbon County

Oenothera coronopifolia, Combleaf Evening-primrose, is a rhizomatous perennial to 1.5 foot tall and 0.5 foot wide. The leaves are upto 3 inches long and 0.5 inch wide and deeply lobed. The flowers are white fading to pink, upto 1.5 inch across, with several in the upper leaf axils. It has a long blooming period from June to August. The plants occur naturally in dry, open areas of the plains and foothills. They prefer full sun and well drained soil but will tolerate clay soils. It sometimes gets aggressive and needs to be controlled. It can be grown from seed sown outdoors in fall, barely covered with soil. Seed is commercially available. It is also easily grown from rhizome cuttings.

Oenothera coronopifolia, Platte County

Cody Students Protect Heart Mountain Plant

In June 2013, a group of middle-school students and teachers from Cody designed, constructed and installed an observation deck on Heart Mountain, to direct foot traffic away from Shoshonea (*Shoshonea pulvinata*) while providing visitors with a place to observe the summit scenery.

Shoshonea, one of several rare plants found on Heart Mountain, is a long-lived, mat-forming perennial in the Carrot family restricted to an area of northwestern Wyoming and south-central Montana. It grows on sparsely-covered limestone outcrops. It was discovered by Erwin Evert (Evert and Constance 1982). In his last visit to Heart Mountain, Evert noted the affects of trampling. The deck and a sign about the plant and project were erected in his honor, a Project-Based Learning endeavor in cooperation with Nature Conservancy.

Reference

Evert, E. F. and L. Constance. 1982. *Shoshonea pulvinata*, a new genus and species of Umbelliferae from Wyoming. Systematic Botany 7:471-475.

Wyoming Native Plant Society is a non-profit organization established in 1981 to encourage the appreciation and conservation of the native plants and plant communities of Wyoming. The Society promotes education and research through its newsletter, field trips, annual student scholarship and small grants awards. Membership is open to individuals, families, or organizations. To join or renew, please return this form. See the return address below.

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[ ] WYNPS Lifetime membership: $200 ($150 for membership and $50 for Scholarship fund)
[ ] Sublette Chapter annual membership: $5.00
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Total enclosed: _____ THANK YOU !

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